

PRIORITY RATING SYSTEM FOR POINT SOURCE, NON-POINT SOURCE and BROWNFIELDS REDEVELOPMENT PROJECTS

INTENT OF INTEGRATED PRIORITY RATING SYSTEM

It is the intent of the Integrated Priority Rating System for the Clean Water State Revolving Fund (CWSRF) to evaluate and rank projects to mitigate point sources (re. discharges from wastewater treatment plants [WWTP]) and non-point sources (including brownfields redevelopment projects) of water pollution.

The priority rating system previously used to evaluate projects proposed to be funded by the CWSRF was limited to point source discharges. Because the CWSRF can be used to fund non-point source projects (including brownfields redevelopment projects), a comprehensive priority rating system that is capable of including and evaluating these types of projects has been developed. The integrated priority rating system has three components: the point source discharge component (PS); the non-point source component (NPS); and the brownfields redevelopment component (BR). The integrated priority rating system is as follows:

$$\text{Priority Rating Number} = \text{PS} + \text{NPS} + \text{BR}$$

Each component of the comprehensive priority rating system is first presented separately.

POINT SOURCE DISCHARGE COMPONENT

The priority ranking system previously used to evaluate and rank CWSRF point source discharge projects was as follows:

$$\text{Priority Rating Number} = S(P)+Q$$

where:

S = severity of pollution or public health factor

P = population factor

Q = water quality preservation factor

This will continue to be used as the point source component of the integrated priority rating system.

Severity of Pollution or Public Health (S)

This factor ensures that limited construction funds are utilized first to reduce significant existing water pollution or public health problems that cannot be solved by adequate operation and maintenance (O&M). Assignment of values shall be done by the NMED using data from water quality studies conducted by NMED, review and verification of data from other sources including data on adequacy of O&M or environmental surveys conducted by NMED. Only one value of the point source severity factor (the highest) shall be assigned.

Discharges to surface waters

Discharges to surface waters shall be rated on the basis of their demonstrated impact on the quality of a receiving stream, lake, or impoundment. Values will be assigned according to compliance with numerical or general standards established for the receiving water in the latest edition of “Water Quality Standards for Interstate and Intrastate Streams in New Mexico.”

The value of S shall be:

- 10 - if the discharge is causing violation of two or more stream standards (other than fecal coliform)
- 8 - if the discharge is causing violation of one stream standard (other than fecal coliform)
- 6 - if the discharge is causing violation of the stream standard for fecal coliform
- 4 - if the discharge is not in compliance with NPDES permit discharge parameters
- 3 - if the project consists primarily of construction or rehab/improvements of a wastewater treatment facility and none of the above conditions can be demonstrated
- 2 - if the project consists primarily of the construction of an interceptor or lift station and none of the above conditions can be demonstrated
- 1 - if the project consists primarily of the construction of a collection system and none of the above conditions can be demonstrated.

Discharges onto or below the surface of the ground

Discharges onto or below the surface of the ground shall be rated on the basis of demonstrated ground water contamination or violation of ground water protection regulations. If inadequate well construction is identified as a significant contributing cause of a contamination problem, points will be assigned in this category only when modification of the wastewater treatment method is the most cost-effective solution.

The value of S shall be:

- 12 - if a total nitrogen (as N) concentration greater than 10 mg/l is demonstrated in a public water supply well where a municipal discharge is the probable cause of this condition (“total nitrogen” means the sum of nitrate nitrogen, nitrite nitrogen, organic nitrogen and total ammonia nitrogen)
- 10 - if a total nitrogen (as N) concentration greater than 10 mg/l is demonstrated in 10% of the private water supply wells within the zone of influence of a municipal discharge where the municipal discharge is the probable cause of this condition. For this category, only wells used primarily as a domestic water supply will be considered
- 8 - if, in an area of ground water contamination where the probable cause of this condition is the on-site waste disposal systems, total nitrogen (as N) concentrations greater than 10 mg/l are present in a public water supply well or in more than 10% of the private water supply wells in the total unsewered portion of the project planning area (when considering projects consisting of new interceptor or collection systems, the planning area will consist only of the area and populace serviced by the proposed interceptor or collection system; this planning area will be used when establishing the severity factor

- “S” and the population factor “P”)
- 6 - if there is existing or projected noncompliance as determined by the NMED with standards for ground water established by Water Quality Control Commission Regulation 3-103 and a municipal discharge or septic systems are the probable cause of this noncompliance (projected noncompliance with WQCCR 3-103 must be demonstrated through the use of predictive hydrologic models used in conjunction with on-site monitoring data)
 - 3 - if the project consists primarily of construction or rehab/improvements of a wastewater treatment facility and none of the above conditions can be demonstrated
 - 2 - if the project consists primarily of the construction of an interceptor or lift station and none of the above conditions can be demonstrated
 - 1- if the project consists primarily of the construction of a collection system and none of the above conditions can be demonstrated.

Population Factor (P)

This factor is a multiplier based on the estimated population of the wastewater treatment facility planning area. The Bureau of Census figures projected to the current calendar year will be used to determine population.

For a population estimate of: The factor shall be:

Less than 1,000	2.0
1,000-4,999	2.5
5,000-9,999	2.75
10,000-19,999	3.0
20,000-39,999	3.25
40,000-64,999	3.5
65,000-99,999	4.0
100,000-499,999	4.5
500,000 or over	5.0

Water Quality Preservation Factor (Q)

This factor considers the need for the preservation of those surface waters in New Mexico which are the most suitable for recreation and support of desirable aquatic life or for ground water which has an existing concentration of 10,000 mg/l or less of total dissolved solids (TDS), for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow. Values shall be assigned only to existing surface or ground water non-point source pollution sources and only one value (the highest) shall be assigned to each project. Designated uses listed in Part 2 of the latest edition of the “Water Quality Standards for Interstate and Intrastate Streams in New Mexico” shall apply.

The value shall be:

- 8 – if the discharge is to a stream with designated beneficial uses of a domestic water supply, primary contact recreation or high quality coldwater fishery if there is a reservoir or permanent pool within 25 miles downstream of the site; or if the site contamination may impact ground water which lies within 50 feet of the surface or which will be negatively impacted by the site as evaluated by the Department.
- 6 – if the discharge is to a stream with designated beneficial use of coldwater fishery; or if the site contamination may impact ground water, which lies within 100 feet of the surface;
- 4 - if the discharge is to a stream with designated beneficial uses of marginal coldwater fishery or warmwater fishery; or if the site contamination may impact ground water which lies within 300 feet of the surface;
- 2 - if the discharge is to a stream with designated beneficial uses of secondary contact recreation or limited warmwater fishery; or the site contamination may impact ground water, which lies below 300 feet of the surface.

TRADITIONAL NON-POINT SOURCE COMPONENT

The formula for prioritizing the non-point source component is:

Priority Rating Number = Project Need + Project Merit + Educational Outreach Merit = PN + PM + EOM

Project Need (PN)

The PN considers two items and consists of 20 points:

- 1) Is the project on a water body listed in the 305 (b) report appendices or 303 (d) list?
10 points
- 2) The severity of NPS concerns/pollutants.
10 points

Project Merit (PM)

The PM considers 2 items and consists of 25 points:

- 1) Will the project solve a water quality problem? 15 points

The objective of what will be accomplished during the project's duration must be identified. The objectives must relate to all identified water quality problems, be quantitative and make progress toward achieving or maintaining State water quality standards.

- 2) Is there a measure of success upon project completion? 10 points

The project must include proper monitoring techniques that demonstrate improvements in water quality as a result of BMP implementation. Monitoring can consist of photographic documentation, demonstrable improvements in surface or ground water quality, biological measurements or physical parameters. Measures of success can include reductions in pollutant loading.

Educational Outreach Merit (EOM)

The EOM considers four items and consists of 10 points:

- 1) Is there a public outreach component of the project? 3 points
- 2) Is there adequate organization/cooperation between agencies and private landowners (i.e., is the project ready to be implemented on the ground)? 3 points
- 3) Has a watershed coalition/organization been formed? 2 points
- 4) Will volunteers, students, prisoners or environmental groups be involved in the project? 2 points

BROWNFIELDS REDEVELOPMENT COMPONENT

The formula for prioritizing the brownfields redevelopment component is:

Priority Rating Number = R + Q
where:

R = redevelopment potential (incorporates S, the severity of pollution or public health factor, along with other redevelopment considerations [discussed below])
Q = water quality preservation factor (modified to reflect non-point sources).

Redevelopment Potential Factor (R)

This factor evaluates the redevelopment potential based on the following six (6) criteria:

- A) Site contamination is present at concentrations that pose a potentially unacceptable risk to human health or the environment.
- B) A redevelopment/revitalization plan for the site has been developed that has the support of the municipality.
- C) The redevelopment/revitalization plan for the site has attracted investors.
- D) The site is located in a federal Enterprise Community, a state Historic District, a state Enterprise Zone, or a neighborhood with Environmental Justice concerns.
- E) The site is within one (1) mile from a major transportation artery and/or an Industrial/Commercial Complex.

F) The site has been vacant for 3 years or more.

The value shall be:

- 10 - if all six of the above conditions exist.
- 9 - if conditions A, B, C, D exist, and either condition E or F exist.
- 8 - if conditions A, B, C exist, and either condition D, E, or F exist.
- 7 - if conditions A and B exist and either condition C, D, E, or F exist.
- 6 - if conditions A and B exist, and the site is within 3 miles from a major transportation artery, and an Industrial/Commercial Complex.
- 5 - if conditions A and B exist, and the site has been vacant for 18 months or more.
- 4 - if conditions A and B exist, and the site is within 5 miles from a major transportation artery, and an Industrial/Commercial Complex.
- 3 - if conditions A and B exist, and the site has been vacant for 1 year or more.
- 2 - if conditions A and B exist.
- 1 - if either condition A or B exist.

Water Quality Preservation Factor (Q)

This factor is identical to the water quality preservation factor previously discussed for point source discharges. The same values would apply.

Substituting the formulas for the point source, non-point source and brownfields redevelopment in the following priority rating number formula:

$$\text{Priority Rating Number} = \text{PS} + \text{NPS} + \text{BR}$$

$$\text{PRN} = [\text{S (P)+Q}] + [\text{PN} + \text{PM} + \text{EOM}] + [\text{R} + \text{Q}]$$

To appropriately weight the components in the PRN formula, weighting factors have been developed for each component and include the following:

$$\text{Point Source Factor} = F_{\text{PS}}$$

$$\begin{aligned} F_{\text{PS}} &= 0 && \text{If project does not include any point source components} \\ &= 1 && \text{If project does include point source components} \end{aligned}$$

Non-Point Source Factor = **F_{NPS}**

F_{NPS} = 0 If project does not include any non-point source components
(excluding brownfields redevelopment)
= 0.13 If project does include non-point source components
(excluding brownfields development)

Brownfields Redevelopment Factor = **F_{BR}**

F_{BR} = 0 If project does not include any brownfields redevelopment
components
= 0.33 If project does include brownfields development components

**THE INTEGRATED PRIORITY RATING NUMBER IS DETERMINED BY THE
FOLLOWING:**

PRN = F_{PS} [S (P)+Q] + F_{NPS}[PN + PM + EOM] + F_{BR}[R + Q]

Attachment: Explanation of Proposed Priority Rating System

EXPLANATION OF INTEGRATED PRIORITY RATING SYSTEM

The integrated priority rating system (PRS) for Clean Water State Revolving Fund (CWSRF) projects has to consider both point source projects and non-point source projects (including brownfields redevelopment projects). The intent of this priority rating system is to develop one priority list that will rank projects in an equitable manner.

The integrated priority rating system is the sum of the point source component score, the traditional non-point source component score and the brownfields redevelopment component score. It is represented generally by:

CWSRF Priority Rating Number = Point Source + Non-Point Source + Brownfields Redevelopment

POINT SOURCE PROJECT COMPONENT SCORE

The first type of project is a **point source (PS) project**, traditionally the type of projects that are funded through the CWSRF program. When rating such projects, an established formula [**priority rating number = S (P) + Q**] has been used. It considers the severity (**S**) of the point source discharge problem, the affected population (**P**) and the quality (**Q**) of the affected surface water. The values of **S** can vary from 1 to 12. The values of **P** can vary from 1 to 5. The values of **Q** can vary from 1 to 8. The **PRS No.** can have a value up to 68.

Because the previous priority rating system was approved for CWSRF-funded point-source projects, that system has been incorporated into the integrated priority rating system for determining the point source component value with the exception that it now also includes a weighting factor (**F_{PS}**). The weighting factor **F_{PS}** and associated values will be discussed later. The point source component of the integrated priority rating is represented by:

$$PS = F_{PS} [S (P) + Q]$$

TRADITIONAL NON-POINT SOURCE PROJECT COMPONENT SCORE

The second type of project is a **non-point source (NPS) project**. Though this type of project is eligible for funding by the CWSRF, none have been funded to date. Traditionally NPS projects in New Mexico have been funded using 319 (h) grants. When a project is being considered for receiving 319 (h) grant funds, it is competitively ranked among other NPS projects. An established formula [**319 (h) score = project need + project merit + financial merit + educational merit**] is used to score the projects for ranking. The **319 (h) score** can have a value up to 100 points. The 319 (h) scoring components are weighted as follows:

The **project need (PN)** can have a value up to 20 points; it considers the water body receiving the discharge (10 points) and the severity of the NPS concerns (10 points).

The **project merit (PM)** can have a value up to 50 points; it considers whether a water quality problem will be solved (15 points), the technical merit of the proposed activities (15 points), whether the projects success can be measured (10 points), and whether innovative techniques in project execution can be transferred to other State activities (10 points).

The **financial merit (FM)** can have a value up to 20 points; it considers whether the project is cost-effective (10 points) and whether any non-federal matching funds are committed (10 points).

The **educational merit (EM)** can have a value up to 10 points; it considers whether the project has a public outreach component (3 points), whether adequate organization/cooperation between the stakeholders can be demonstrated (3 points), whether a watershed coalition/organization has been formed (2 points), and whether volunteers (students, prisoners, or environmental groups) will be involved with the project (2 points).

Because a priority rating system has been approved for use on federally-funded [319 (h)] non-point source projects, that same system has also been incorporated into the integrated priority rating system to determine the value of the non-point source component, with the exception that it does not consider the financial merits of the project (because no grants, only loans, are involved); it does not consider the technical merit or the innovative transferable technologies of the specific proposed project activities (because the specific proposed project activities have not been developed for most of the projects pursuing funding); and it does include a weighting factor (F_{NPS}). The weighting factor F_{NPS} and associated values will be discussed later. The non-point source component of the integrated priority rating system is:

$$NPS = F_{NPS} [PN + PM + EM]$$

Though the maximum score for **NPS** as currently defined for 319 (h) grant projects is 100, when the financial merit, the technical merit and technical innovation of an **NPS** project are not included, the maximum score is 55 (when the F_{NPS} is also not considered).

BROWNFIELDS REDEVELOPMENT COMPONENT SCORE

A unique type of a NPS project is a **brownfields redevelopment (BR) project**. Brownfields redevelopment projects are those that address the remediation of soil, surface water and ground water contamination at sites (typically industrial) to revitalize or stimulate the site's economic potential. To be eligible for funding, a **BR** must meet the following criteria:

- The site must be owned by the eligible applicant.
- The site must be targeted for redevelopment by the eligible applicant.
- The nature and extent of contaminants at the site must be characterized and related risks posed by the contaminants must be assessed.
- The site must meet eligibility criteria to enter an agreement with the Department pursuant to the 1997

Voluntary Remediation Act.

- The site must meet the CWSRF applicable Federal requirements determining eligibility.

To date, no **BR** projects have been funded using CWSRF funds nor has there been a system to prioritize brownfields redevelopment projects. The integrated priority rating system can evaluate and rank such non-point source projects by incorporating a brownfields redevelopment component in the formula. The brownfields redevelopment component value is very similar to the **PS** component of the integrated priority rating system. The main difference between the **PS** component and the **BR** component is that the **BR** component does not consider population of the affected area. Population is not being considered because it is difficult to quantify the benefits of **BR** based on population. Though the severity factor **S** has not been included as a separate factor for **BRs**, the redevelopment potential factor (**R**) incorporates the severity of contamination at a site in evaluating the redevelopment potential. Additionally, the **BR** component weighting factor **F_{BR}** has a different value than the weighting factors **F_{PS}** and **F_{NPS}**. The **BR** component of the integrated priority rating system is:

$$\mathbf{BR} = \mathbf{F_{BR}} [\mathbf{R} + \mathbf{Q}]$$

The variable **Q** represents the same water quality factor as in the **PS** component. The weighting factor **F_{BR}** and associated values will be discussed later. The maximum score for **BR** projects is 18.

∴ the INTEGRATED PRIORITY RATING SYSTEM formula is:

$$\mathbf{CWSRF\ PRIORITY\ RATING\ NUMBER} = \mathbf{F_{PS} [S (P) + Q]} + \mathbf{F_{NPS} [PN + PM + EM]} + \mathbf{F_{BR} [R + Q]}$$

WEIGHTING FACTORS

As previously mentioned, the maximum score for **PS** is 68 when the **F_{PS}** is not considered; the maximum score for **NPS** is 55 when the **F_{NPS}** is also not considered; and the proposed maximum score for **BR** is 18 when the **F_{BR}** is not considered. Scoring criteria for each type of project is presented in the integrated priority ranking system guidance document.

The use of factors is designed to account for the scoring discrepancy between the different components (max of 68 for **PS**, max of 55 for traditional **NPS**, and max of 18 for **BR**), as well as facilitating funding targets established by the U.S. EPA for the different types of projects. Specifically, it is the NMED's understanding that the U.S. EPA desires 90 % of the projects being funded by the CWSRF program to be **PS** projects. Because of this, the **PS** component of the priority rating number is the dominant component; as such the relationship between the **PS** component and both the traditional **NPS** component and the **BR** component has been used to determine the factor values, not the relationship between the traditional **NPS** component and the **BR** component.

Point Source Weighting Factor

To simplify the relationships to the point source component, the F_{PS} will be 1 if the proposed project is a point source project or 0 if the proposed project is not a point source. The effect of having the F_{PS} being 0 for projects other than point source projects is that the point source component will appropriately drop out of the equation and would not contribute to the priority rating number.

$$\begin{aligned} F_{PS} &= 1 && \text{If project does include any point source components} \\ F_{PS} &= 0 && \text{If project does not include any point source components} \end{aligned}$$

Though the maximum score of each component has been presented, it is more useful to consider historical scores of proposed projects when establishing values for the various factors. Since there is historical information for **PS** and **NPS** projects, but no historical information for **BR** projects, the relationship between F_{PS} and F_{NPS} was established first.

Non-Point Source Weighting Factor

Historically, priority rating values for 90% of the **PS** projects have been 6 or more (the maximum score was 27, the average score was 15). Historically, the maximum score of **NPS** projects has been 46 after accounting for the removal of technical merit, technical innovations and financial merit considerations. Therefore to ensure that 90% of all the **PS** projects are funded, the scores for **NPS** projects should not exceed 6. The relationship is as follows:

$$\begin{aligned} 90\% \text{ score of } \mathbf{PS} \text{ projects} &\geq \text{maximum historical score of } \mathbf{NPS} \text{ projects} \\ 6 &\geq F_{NPS} [46] \end{aligned}$$

$$\therefore 6 / 46 \geq F_{NPS}$$

$$\text{or } F_{NPS} \leq 0.13$$

$$\begin{aligned} F_{NPS} &= 0.13 && \text{If project does include any non-point source components} \\ F_{NPS} &= 0 && \text{If project does not include any non-point source components} \end{aligned}$$

The effect of having the F_{NPS} being 0 for projects other than non-point source projects is that the non-point source component will appropriately drop out of the equation and would not contribute to the priority rating number.

Brownfields Redevelopment Weighting Factor

When establishing the relationship between **BR** and **PS**, it is helpful to remember the similarities and differences between the two. As previously mentioned, the difference between the equations being used for each the two different components is that point source projects are evaluated for **P**

(population factor) and **S** (severity factor) while brownfields redevelopment projects are evaluated for **R** (redevelopment factor); parameter **Q** (receiving water quality factor) is evaluated in the same manner for both.

Taking into account that 90 % of the projects to be funded are to be point source projects and that 90 % benchmark score is 6, scores for brownfields redevelopment projects must be less than 6. Remembering that the maximum score possible for brownfields is 18, the relationship that must be met is as follows:

$$\begin{array}{rcl} 90 \% \text{ score of } \mathbf{PS} \text{ projects} & \geq & \text{maximum possible score of } \mathbf{BR} \text{ projects} \\ 6 & \geq & \mathbf{F_{BR}} [18] \end{array}$$

$$\therefore \quad 6 / 18 \quad \geq \quad \mathbf{F_{BR}}$$

$$\text{or} \quad \mathbf{F_{BR}} \quad \leq \quad 0.33$$

$$\mathbf{F_{BR}} \quad = \quad 0.33 \quad \text{If project does include brownfields redevelopment components}$$

$$\mathbf{F_{BR}} \quad = \quad 0 \quad \text{If project does not include brownfields redevelopment components}$$

The effect of having the **F_{BR}** being 0 for projects other than brownfields redevelopment projects is that the brownfields redevelopment component will appropriately drop out of the equation and would not contribute to the priority rating number.